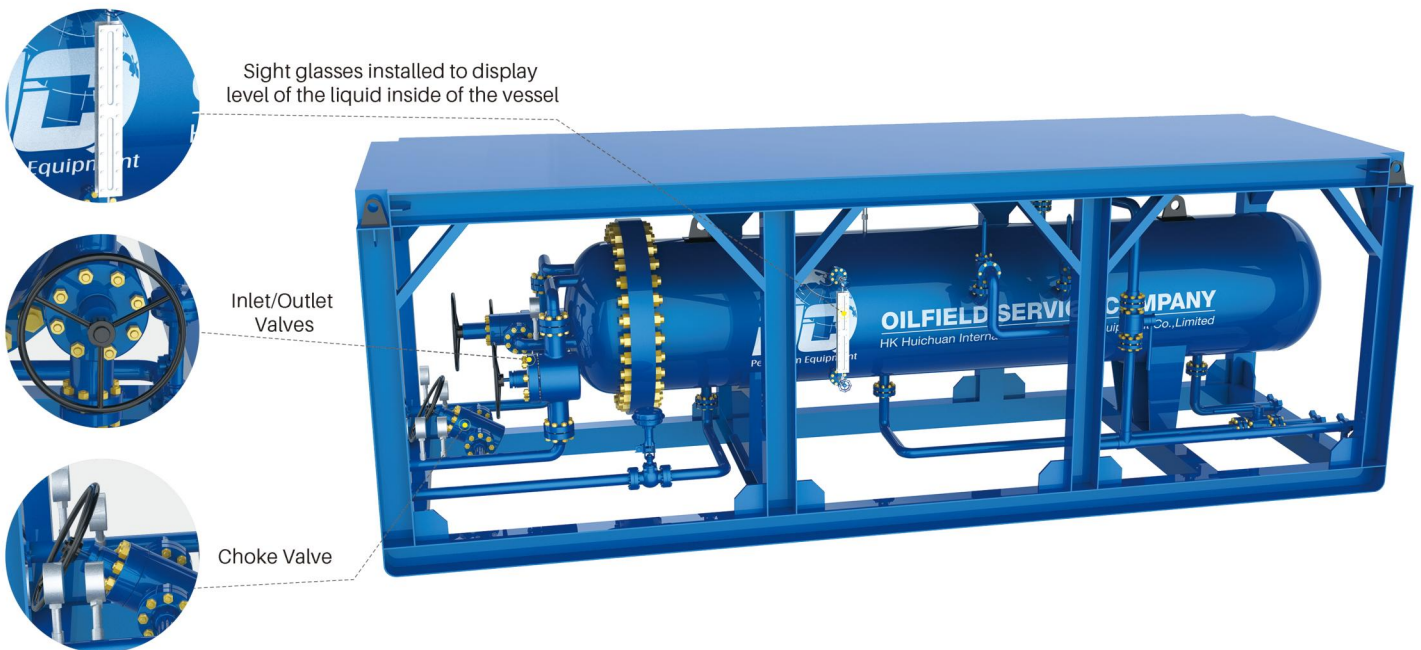


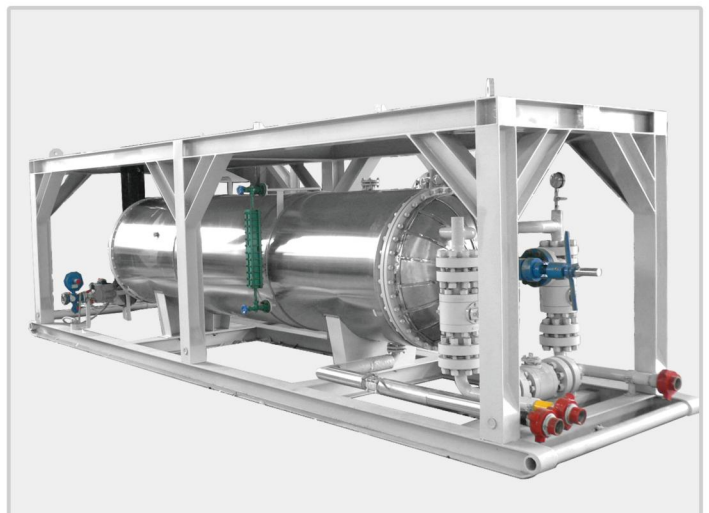
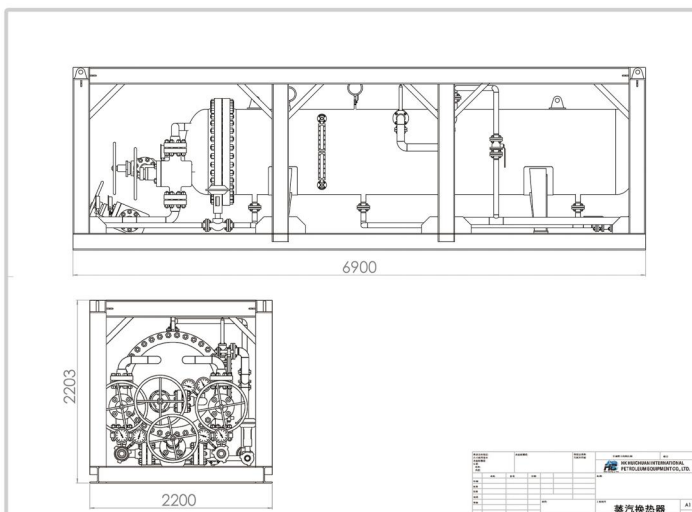
Steam Heater

Steam heater is a unit of well testing package, which plays an important role to ensure well fluid reaches the necessary temperature level before entering the test separator.

As steam heater transfers the heat from the steam to the well fluid, it can be considered as special type of heat exchangers, mostly used during well testing and well clean-ups. Configuration of the steam heat exchanger depends on the requirements of the oilfield service company or an operator, usually consists of flow-control valves, choke valve, level indicator, pressure and temperature gauges, safety valves and steam pressure controllers.

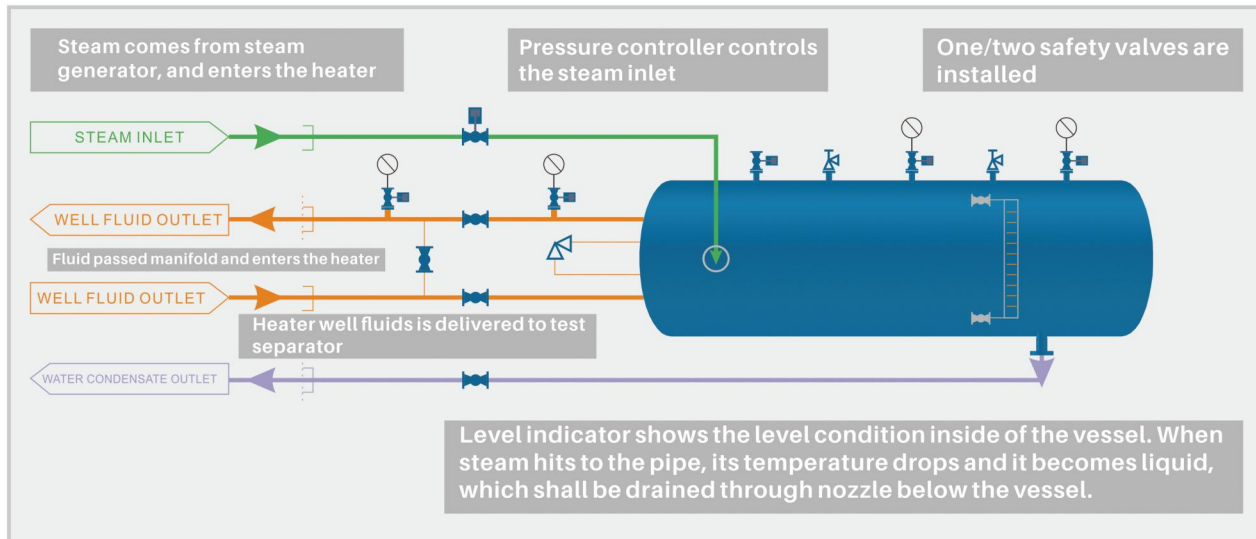


Technical Drawings



Working Process

Steam comes from a steam generator and enters the heater. Steam inlet pipeline is equipped with one or two pressure controllers to control steam flow. One or two safety valves are installed in case of pressure increase inside of the vessel. Level indicator shows the level condition inside of the vessel. When steam hits to the pipe, its temperature drops and it becomes liquid, which shall be drained through nozzle below the vessel.



Steam Heater Serving As Well As Indirect Heater

Some manufacturers or the oilfield operators may order the steam heater with burner on the back, so they may switch to "indirect line heater" mode and/or "steam heater" mode. This kind of structure allows the oilfield services company to be flexible during the well testing in different areas, however, it shall fully comply with safety codes and norms of the region where equipment is operated. The most important is steam heater shall be safe for the personnel and facility.

Burner is installed on the back and chimney pipe on the top of the skid. It is installed upwards when equipment arrives well testing site.

MODEL	HCSWE-15	HCSWE-15	HCSWE-11	HCSWE-118
SERVICE	sour	sour	sour	sour
SIZE	42 in. x 15 ft.	42 in. x 15 ft.	48 in. x 18 ft.	48 in. x 18 ft.
FLOW LINE PRESSURE	5000 psig	10000 psig	10000 psig	15000 psig
VESSEL PRESSURE	250 psi	250 psi	250 psi	250 psi
CHOKE SIZE	3/4"	3/4"	3/4"	3/4"
WELL FLUID INLET SIZE	3/4"	3/4"	3/4"	3/4"
WELL FLUID OUTLET SIZE	3/4"	3/4"	3/4"	3/4"
STEAM INLET/OUTLET SIZE	2"	2"	2"	2"
RELIEF SET PRESSURE	As Vessel Pressure			
SKID DIMENSIONS	20ft. X 6ft. X 8ft.	20ft. X 6ft. X 8ft.	24ft. X 6ft. X 8ft.	24ft. X 6ft. X 8ft.
CODES & STANDARDS	NACE MR0175; API; ASME; ANSI; DNV (for offshore); ISO			